

Pending Claims After The Entering Of The Above Amendments

1. (Twice Amended) A primary alkaline battery, comprising:
a cathode comprising a cathode active material, a binder, and carbon fibers;
an anode;
a separator; and
an alkaline electrolyte,
wherein the cathode comprises less than about 5% of carbon fibers by weight.
2. Canceled.
3. The battery of claim 1, wherein the cathode comprises less than about 4% of carbon fibers by weight.
4. The battery of claim 1, wherein the cathode comprises less than about 3% of carbon fibers by weight.
5. The battery of claim 1, wherein the cathode comprises less than about 2% of carbon fibers by weight.
6. The battery of claim 1, wherein the cathode comprises between about 1% and about 5% of carbon fibers by weight.
7. The battery of claim 1, wherein the cathode comprises between about 2% and about 3% of carbon fibers by weight.
8. The battery of claim 1, wherein the cathode active material comprises manganese dioxide.
9. The battery of claim 1, wherein the cathode comprises greater than about 86% of cathode active material by weight.
10. The battery of claim 1, wherein the cathode comprises greater than about 88% of cathode active material by weight.
11. The battery of claim 1, wherein the cathode comprises greater than about 90% of cathode active material by weight.
12. The battery of claim 1, wherein the cathode comprises greater than about 92% of cathode active material by weight.

13. The battery of claim 1, wherein the carbon fibers have a diameter less than about 250 nanometers.

14. The battery of claim 1, wherein the carbon fibers have a diameter between about 60 nanometers and about 100 nanometers.

15. The battery of claim 1, wherein the carbon fibers have a diameter less than about 60 nanometers.

16. The battery of claim 1, wherein the carbon fibers have been heat treated.

17. The battery of claim 16, wherein the carbon fibers have been heat treated at a temperature greater than about 2000 °C.

18. The battery claim 16, wherein the carbon fibers have been heated treated at a temperature between about 2600 °C and about 3100 °C.

19. The battery of claim 1, wherein the carbon fibers have a length less than about 2×10^5 nanometers.

20. The battery of claim 1, wherein the carbon fibers have a length between about 500 nanometers and about 200,000 nanometers.

21. The battery of claim 1, wherein the carbon fibers have a length between about 500 nanometers and about 200,000 nanometers.

22. The battery of claim 1, wherein the carbon fibers comprise between about 1 and about 500 layers of graphite.

23. (Amended) A primary alkaline battery, comprising:
a cathode comprising a cathode active material and carbon fibers;
an anode;
a separator; and
an alkaline electrolyte,
wherein the carbon fibers comprise between about 40 and about 100 layers of graphite.

24. The battery of claim 1, wherein the carbon fibers have an external surface area between about $10 \text{ m}^2/\text{g}$ and about $50 \text{ m}^2/\text{g}$.

25. (Amended) A primary alkaline battery, comprising:

a cathode comprising a cathode active material and carbon fibers;
an anode;
a separator; and
an alkaline electrolyte,
wherein the carbon fibers have a surface energy between about 50 mJ/m² and about 300 mJ/m².

26. (Amended) A primary alkaline battery, comprising:
a cathode comprising a cathode active material and carbon fibers;
an anode;
a separator; and
an alkaline electrolyte,
wherein the carbon fibers have a graphitic index of less than about 85%.

27. The battery of claim 1, wherein the carbon fibers have a length equal to or greater than an average particle size of the cathode active material.

28. The battery of claim 1, wherein the cathode further comprises a surfactant.

29. The battery of claim 28, wherein the surfactant is selected from a group consisting of polyvinyl alcohol, ethylene-vinyl alcohol, and polyvinylbutyrol.

30. The battery of claim 1, wherein the anode comprises zinc as an anode active material.

31. (Twice Amended) A primary alkaline battery, comprising:
a cathode comprising manganese dioxide, a binder, and a heat-treated carbon fiber having a diameter less than about 250 nanometers;
an anode;
a separator; and
an alkaline electrolyte.

32. The battery of claim 31, wherein the cathode comprises between about 1% and about 5% of carbon fibers by weight.

33. The battery of claim 31, wherein the cathode comprises between about 2% and about 3% of carbon fibers by weight.

34. The battery of claim 31, wherein the cathode has an electrical conductivity at least 3 times greater than a cathode having about 6% of graphite.

35. (Amended) A primary alkaline battery, comprising:
a cathode comprising a cathode active material, a binder, and carbon fibers;
an anode;
a separator; and
an alkaline electrolyte,
wherein the cathode comprises greater than about 86% of the cathode active material by weight.

36. The battery of claim 35, wherein the cathode comprises manganese dioxide.

37. The battery of claim 1, wherein the binder comprises a material selected from the group consisting of polyethylene, polyacrylamide, polytetrafluoroethylene, and polyvinylidene fluoride.

38. The battery of claim 1, wherein the cathode comprises between 0.1% to about 1% by weight of the binder.

39. A primary alkaline battery, comprising:
a cathode comprising a cathode active material and less than about 5% of carbon by weight, the carbon comprising carbon fibers;
an anode;
a separator; and
an alkaline electrolyte.

40. The battery of claim 39, wherein the cathode further comprises a binder.

41. A primary alkaline battery, comprising:
a cathode comprising a cathode active material and carbon, the carbon consisting of carbon fibers;
an anode;
a separator; and
an alkaline electrolyte.

42. The battery of claim 41, wherein the cathode includes less than about 5% of carbon by weight

43. The battery of claim 41, wherein the cathode further comprises a binder.